

U.S. Patent Application No. 10/074,333
Amendment dated December 23, 2003
Reply to Office Action dated September 23, 2003

REMARKS/ARGUMENTS

Reconsideration and continued examination of this application are respectfully requested.

The amendment to the claims further defines what applicants regard as their invention. Support for the amendment can be found throughout the present application including the claims as originally filed, such as claims 1 and 2. Accordingly, no questions of new matter are raised by the amendment and entry of the amendment is respectfully requested.

Claims 1-12 and 14-26 are pending.

Claims 1 and 2 have been amended to recite that the sterically hindered silane containing group is present in a) or both a) and b) as these components are defined in their respective claims. Claim 15 has been amended to recite that the sterically hindered silane or silane containing group is present. Claim 8 has been amended so that it is an independent claim.

The amendment to the specification corrects typographical errors and also uses all capital letters to signify trademarks. No new matter is introduced by these amendments.

At page 2 of the Office Action, the Examiner objects to the disclosure due to several informalities. On page 38, the Examiner states that the use of the trademark should be capitalized. Also, the Examiner notes a spelling mistake in paragraph [0027].

In response, these corrections have been made by way of this amendment. Accordingly, this objection should be withdrawn.

At page 3 of the Office Action, the Examiner rejects claims 1-3, 6, 7, 10, 11, 14, 15, 18-21, and 23-26 under 35 U.S.C. §102(a) as being anticipated by Amin-Sanayei et al. (WO 01/34670 A1). The Examiner asserts that with respect to the rejection of claim 1, this rejection is where

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components a) and b) are the same. The Examiner asserts that Amin-Sanayei, in Example 1, shows the formation of a dispersion containing a latex which is a fluoropolymer containing sterically hindered silane groups. The Examiner further notes that Amin-Sanayei et al. further shows the use of a composition as a coating and further shows fluoropolymers that are cross-linked. The Examiner further states that with respect to claims 2, 3, and 15, Amin-Sanayei et al. shows fluoropolymers containing one or more organo-silane functionalities that are sterically hindered groups corresponding to component b) in the present application. With respect to the other rejected claims, the Examiner asserts that Amin-Sanayei et al. shows these other components including the preferred silane monomers. For the following reasons, this rejection is respectfully traversed.

Claims 1, 2, 15, and the claims dependent thereon recite a cross-linkable fluoropolymer dispersion or blend wherein at least one sterically hindered silane containing group is present in a) the polymer product of at least one polymerizable acrylic and/or vinyl containing monomer or the sterically hindered silane containing group is present in a) the polymer product of at least one polymerizable acrylic and/or vinyl containing monomer and in b) the fluoropolymer dispersion.

Unlike the claimed invention, Amin-Sanayei does not teach a sterically hindered silane containing group in the polymer product of at least one polymerizable acrylic and/or vinyl containing monomer. This is apparently appreciated by the Examiner by reason that claim 4 was not included in this rejection. Accordingly, for this reason, the rejection should be withdrawn.

At the bottom of page 4 of the Office Action, the Examiner rejects claims 1, 18, 21, 23, and 24 under 35 U.S.C. §102(b) as being anticipated by Kobayashi et al. (U.S. Patent No. 5,859,123). The Examiner asserts that this rejection covers the situation where components a) and b) are the

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same. The Examiner further asserts that Kobayashi et al., at column 1, shows a water-based fluorine containing emulsion that is a one-package paint providing a coated film. The Examiner further asserts that Kobayashi et al. shows that the emulsion is produced by the copolymerization of a fluoroolefin and an olefinic-containing silicon compound. The Examiner further asserts that the other rejected claims are shown by Kobayashi et al. For the following reasons, this rejection is respectfully traversed.

Claim 1 recites a cross-linkable fluoropolymer dispersion wherein the polymer product of at least one polymerizable acrylic and/or vinyl containing monomer is in the presence of an aqueous dispersion of at least one fluoropolymer. Thus, the fluoropolymer is dispersed in the aqueous dispersion and the polymer product of at least one polymerizable acrylic and/or vinyl containing monomer is dispersed in this polymer. Unlike claim 1 which involves a polymer dispersed in another polymer, Kobayashi et al. relates to a polymer in one phase. Kobayashi et al. does not relate to a polymer dispersed in another polymer. As clearly stated in Kobayashi et al., this reference shows copolymerizing at least fluoroolefin with an organo-silicon compound in water. There is no polymer dispersed in another polymer to form a cross-linkable fluoropolymer dispersion as recited in claim 1. Thus, Kobayashi et al. does not teach the subject matter of these claims, and the rejection should be withdrawn.

At page 5 of the Office Action, the Examiner rejects claim 15 under 35 U.S.C. §102(b) as being anticipated by Tomonori et al. (JPO computer translation of JP 05-186907). The Examiner asserts that claim 15 does not require the presence of a sterically hindered silane or silane containing group in component a). The Examiner asserts that Tomonori et al. shows a polymer

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blend of a fluoropolymer and a vinyl system polymer. The Examiner further asserts that Tomonori et al. teaches that the fluoropolymer may be copolymerized with a silyl monomer. For the following reasons, this rejection is respectfully traversed.

Claim 15 now recites that component a) includes the presence of a sterically hindered silane or silane containing group. Since Tomonori et al. does not teach this component, this rejection should be withdrawn.

At page 6 of the Office Action, the Examiner rejects claims 2, 4, 5, 9, and 22 under 35 U.S.C. §103(a) as being unpatentable over Amin-Sanayei et al. and Chen et al. (U.S. Patent No. 5,621,038). The Examiner asserts that Amin-Sanayei et al. shows fluoropolymers containing one or more organo-silane functionalities that are sterically hindered groups corresponding to applicant's component b). The Examiner further asserts that Chen et al. shows silane containing polymers that have a shelf life of 12 or 24 months which is greater than the 3 months claimed by applicants in claim 22. The Examiner further asserts that Chen shows polymers that contain sterically hindered silane groups and further shows polymers that are vinyl acrylics and two different monomers may be used in a copolymer. The Examiner further asserts that Amin-Sanayei et al. and Chen et al. are analogous art and therefore combinable. For the following reasons, this rejection is respectfully traversed.

As indicated above, claim 2 recites that the acrylic resin or vinyl resin contains a sterically hindered silane or silane group which is not taught or suggest in Amin-Sanayei et al. For this reason alone, the rejection of claim 2 should be withdrawn.

With respect to the remaining claims, as indicated above, with respect to claim 2, Amin-

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Sanayei et al. does not teach or suggest at least one acrylic resin or vinyl resin having at least one sterically hindered silane or silane containing group. It appears, in an effort to overcome this deficiency, the Examiner relies on Chen et al. to argue that it would be obvious to use such a polymer or resin. However, the applicants respectfully disagree. As the Examiner should appreciate, Amin-Sanayei et al. relates to fluoropolymer chemistry while Chen et al. does not relate to fluorochemistry. While Chen et al. provides many examples of various polymers, there is no teaching or suggestion in Chen et al. of any fluoropolymer chemistry. As the Examiner should further appreciate, fluorochemistry is quite different from non-fluorochemistry. In fluorochemistry, during polymerization, the fluorine containing monomer does not readily polymerize with other polymers. Furthermore, in fluorochemistry, there are different reaction kinetics. Also, as the Examiner should appreciate, fluoropolymers have significantly different properties and further fluoropolymers have lower pHs which affect the stability of the polymers. Also, fluoropolymers have different reactivities with respect to functional groups present on the fluoropolymer. In view of all these differences, it would not be obvious to one skilled in the art to look to Chen et al., which relates to non-fluorochemistry, and apply this knowledge to Amin-Sanayei et al. Simply, one skilled in the art is not going to apply non-fluorochemistry to a fluorochemistry technology. At best, the Examiner is using an obvious to try standard. Certainly, one of the inventors, Dr. Amin-Sanayei would even be willing to sign a Declaration stating the above differences between fluorochemistry and non-fluorochemistry.

Thus, the applicants believe that Amin-Sanayei et al. is not analogous to Chen et al. due to the difference in chemistry and one skilled in the art would not combine these teachings.

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Accordingly, for these reasons, this rejection should be withdrawn.

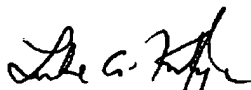
At page 7 of the Office Action, the Examiner allows 16 and 17 and objects to claim 8. The applicants and the undersigned appreciate the Examiner's indication of this allowable subject matter. In view of the above comments, the applicants believe that the remaining claims are allowable. The Examiner is encouraged to contact the undersigned should there be any remaining questions as to the patentability of the presently claimed subject matter.

CONCLUSION

In view of the foregoing remarks, the applicant respectfully requests the reconsideration of this application and the timely allowance of the pending claims.

If there are any other fees due in connection with the filing of this response, please charge the fees to Deposit Account No. 50-0925. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and should also be charged to said Deposit Account.

Respectfully submitted,



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